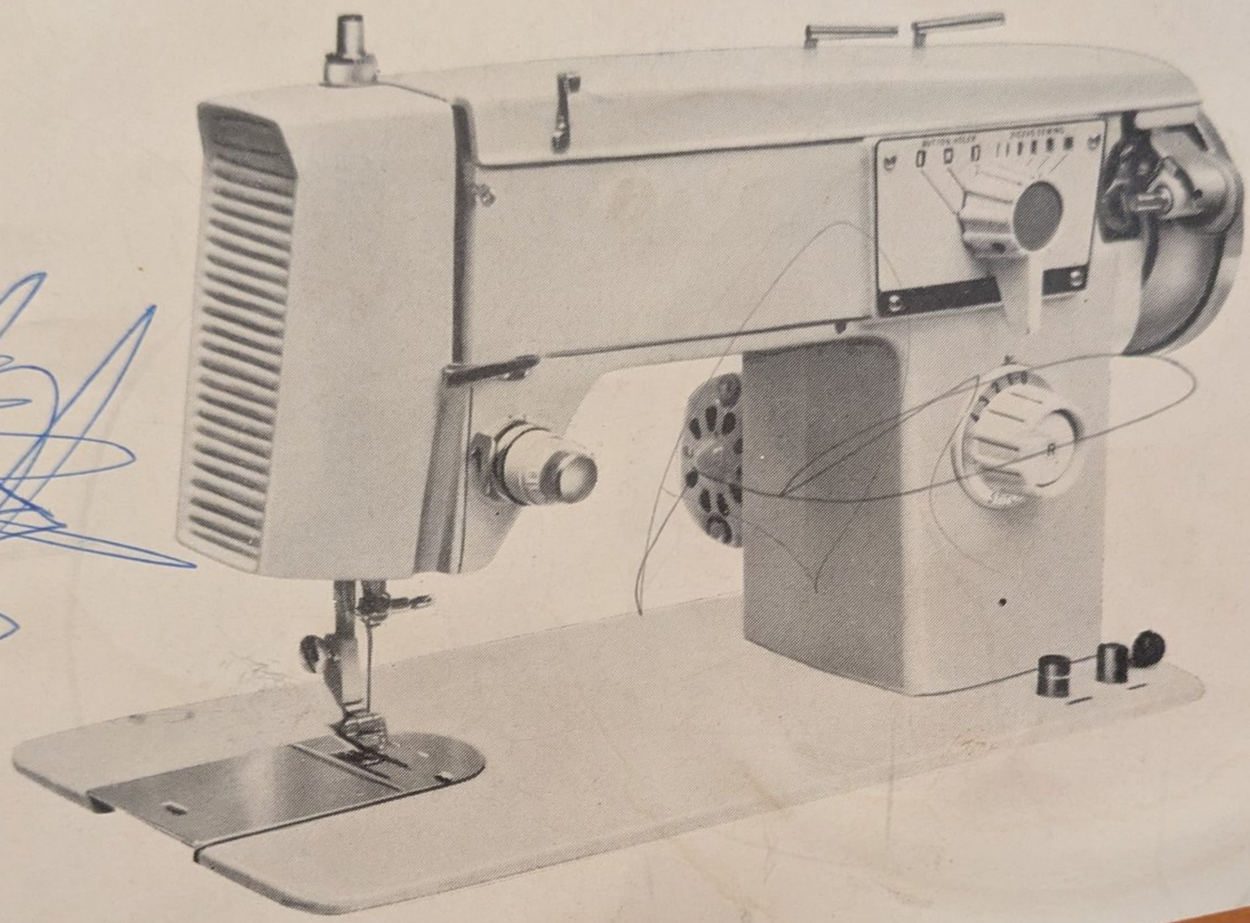

DELUXE ZIG-ZAG

Sewing Machine

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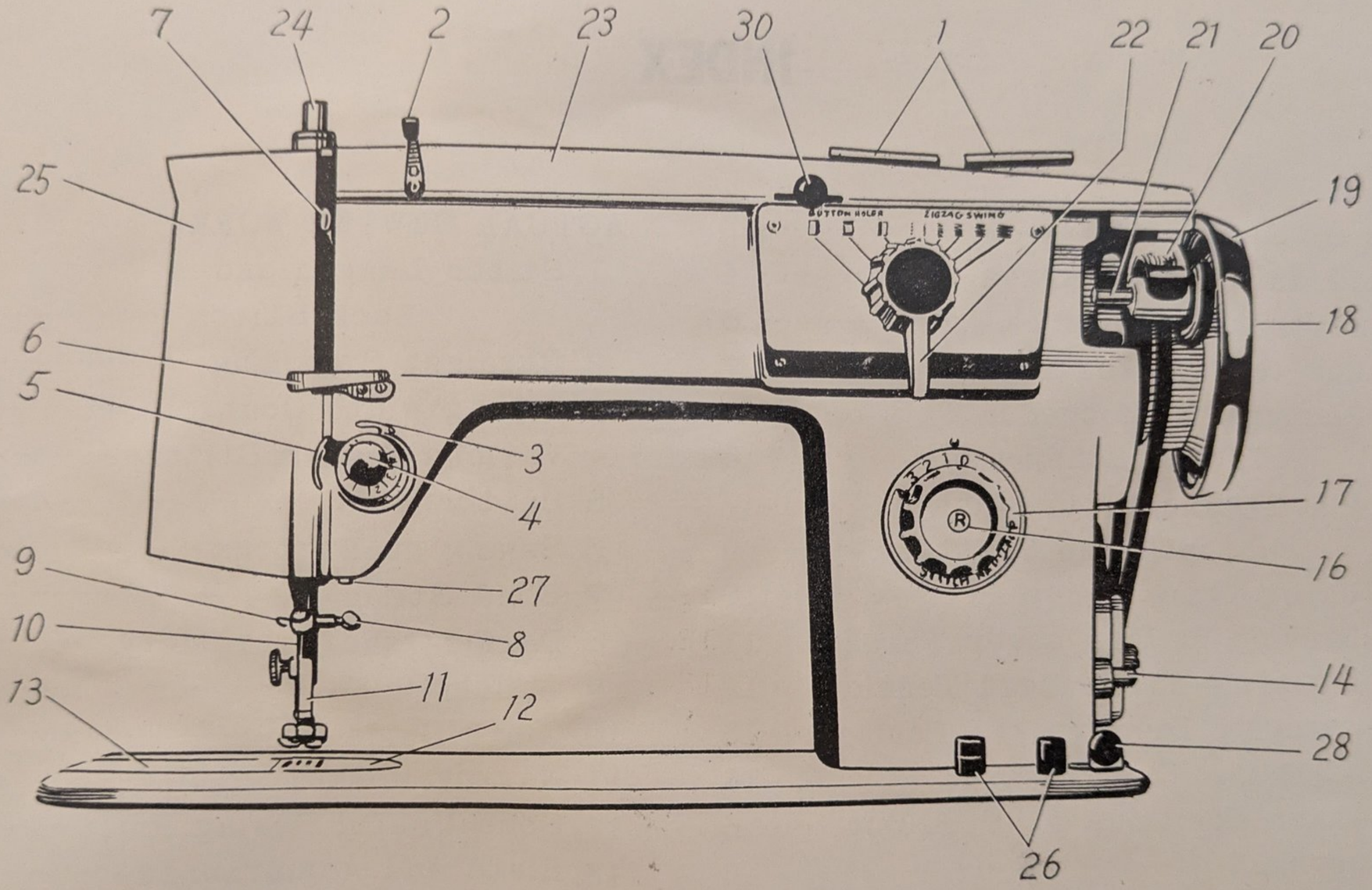
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NAME OF EACH PART

1. Spool pin
2. Top plate thread guide
3. Check spring
4. Tension assembly
5. Thread retainer bar
6. Second thread guide
7. Thread take up lever
8. Needle clamp
9. Needle bar thread guide
10. Needle
11. Presser foot
12. Needle plate
13. Throat plate
14. Sewlight switch
16. Reverse stitch button
17. Stitch regulator
18. Stop motion knob
19. Hand wheel
20. Bobbin winder latch
21. Bobbin winder shaft
22. Z.BH dial
23. Arm cover
24. Darner
25. Face plate
26. Drop feed push button
27. Presser bar lifter
28. Bobbin winder thread guide
29. Electric motor
30. Zigzag-Lever

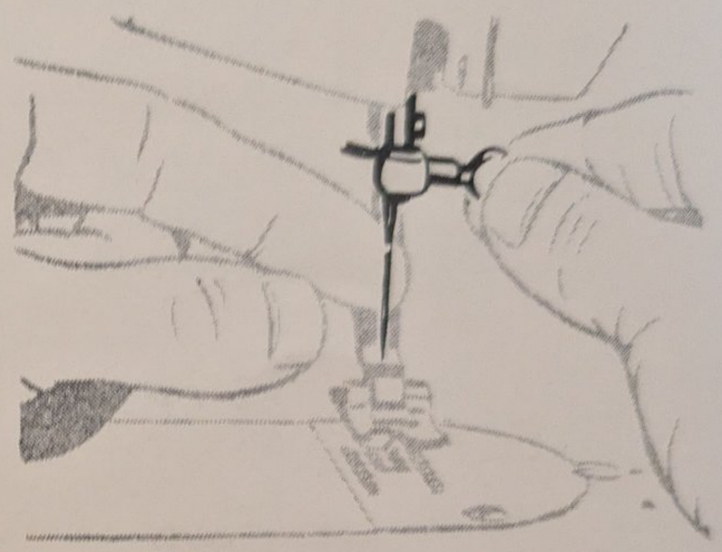
NEEDLE AND THREAD SIZE

Size & Grade of Needle	Type of Fabric & Work to be done	Size of Thread		
		Cotton	Silk	Linen
9 (Fine)	Delicate fabrics like Georgette, Chiffon, Batiste, Fine Lace, Linen and other sheer fabrics. For fine lingerie infants' clothes and fine lace work.	100 to 150	00 and 000 Twist	
11 (Medium-Fine)	Medium light-weight and summertime fabrics, for house dresses, washable cotton dresses, aprons, curtains and children's dresses.	80 to 100	0 Twist	
14 (Medium)	Dress silks and cottons, light weight woolens, draperies, fabric furnishings. For general household sewing, fine men's shirts, smocks, window draperise and fabric decorations.	60 to 80	A and B Twist	
16 (Light-Heavy)	Heavy cretonne, madras, muslin, brocades and quilts. For men's work shirts, fabric furnishings.	40 to 50	C Twist	
18 (Medium-Heavy)	Heavy woven coating, light weight canvas, bed ticking, upholstery and awning material, slip covers.	30 to 40	D Twist	

19 (Heavy)	Heavy woven suiting, coating, duck ticking, drilling, canvas sacking.	24 to 30	E Twist	60 to 80
21 Extra- Heavy	For bags, canvas, coarse clothes and heavy goods.	Very Coarse		40 to 60

1. SETTING THE NEEDLE

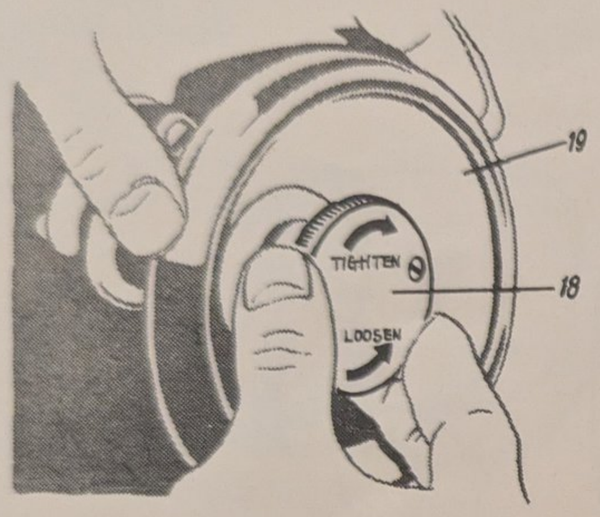
a. Move the needle to its highest point, by turning the hand wheel (19) toward you.
b. Loosen the needle clamp screw and remove the present needle.
c. Insert a new needle (flat side of the needle facing to the right) into the needle clamp as far as it will go.
d. Then tighten the needle clamp screw.



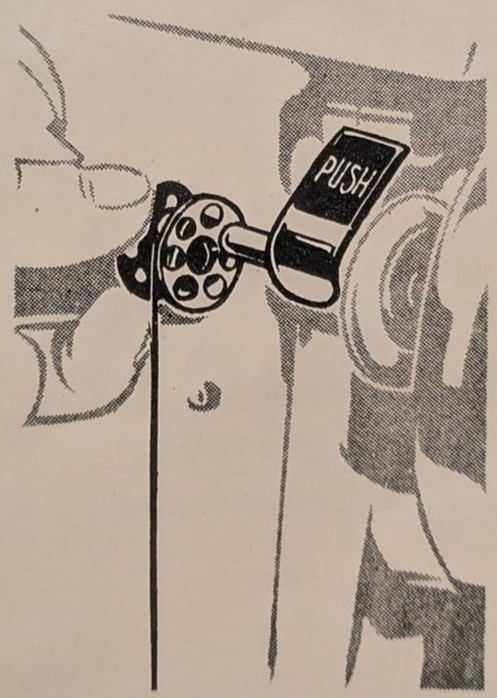
FLAT SIDE OF NEEDLE
FACING TO THE RIGHT

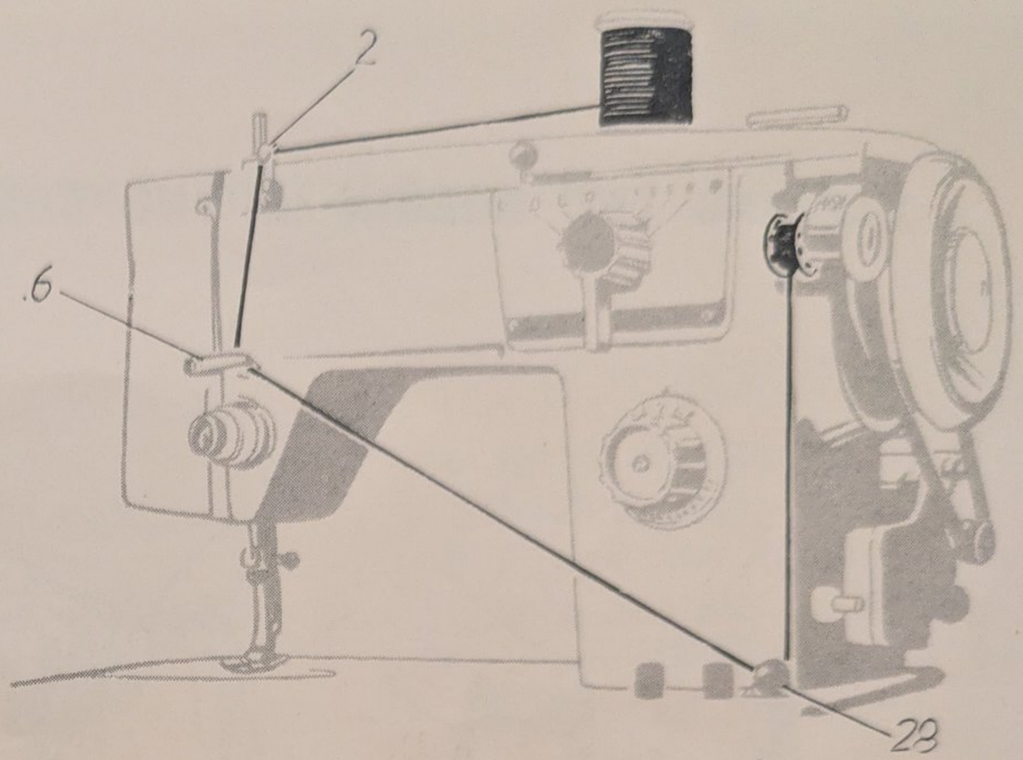
NOTICE:
Always be certain the needle in your machine is not bent or blunted.

2. HOW TO WIND THE BOBBIN



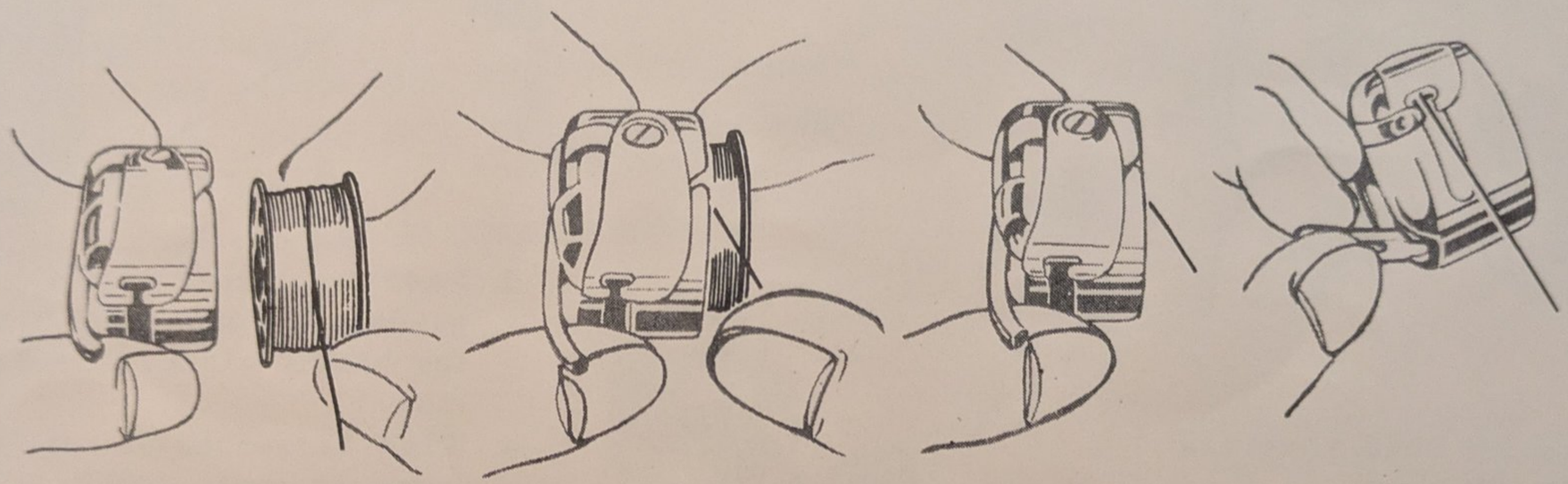
a. Hold the hand wheel (19) with left hand.
b. Loosen the stop motion knob (18) with right hand.
c. Place a spool of thread on the spool pin (1).





d. Pass the thread through thread guides (2,6) and lead between the bobbin winder thread guide (28).
e. Wind thread seven or eight turns on empty bobbin.
f. Place bobbin on bobbin winder shaft (21), fitting slot of bobbin into pin of shaft.
g. Push bobbin winder latch (20) down.
h. Run the machine until the bobbin stops winding thread automatically.
i. Remove the full bobbin from the machine.
j. Tighten the stop motion knob.

3. PLACING THE BOBBIN IN THE BOBBIN-CASE



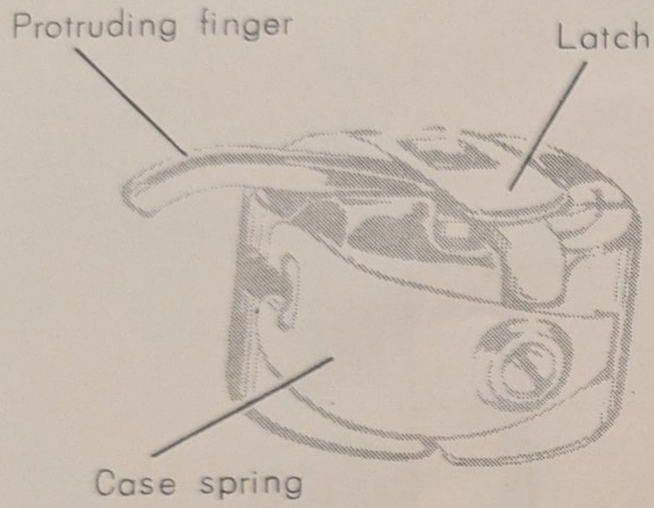
a. Hold the bobbin-case and bobbin as shown.

b. Insert the bobbin into the bobbin-case.

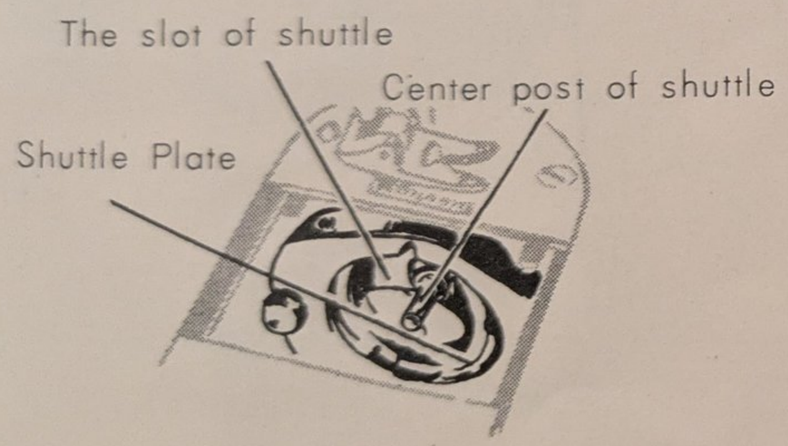
c. Draw thread under the tension spring between the fork shaped opening.

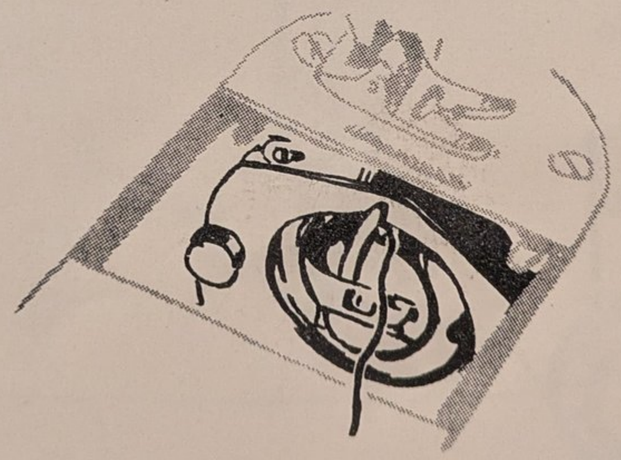
4. PLACING THE BOBBIN-CASE INTO THE SHUTTLE.

Bobbin-case



a. Hold the latch of the bobbin-case as shown.
b. Place the bobbin-case into shuttle by fitting.
   1) bobbin-case hole to center post of shuttle and
   2) protruding finger of bobbin-case into the slot of shuttle plate.





c. Release latch and press bobbin-case into the shuttle until it clicks in.
d. Allow 4 or 5inches of thread to hang freely from bobbin.

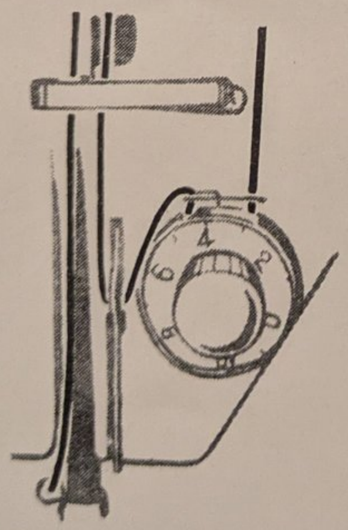
5. UPPER THREADING

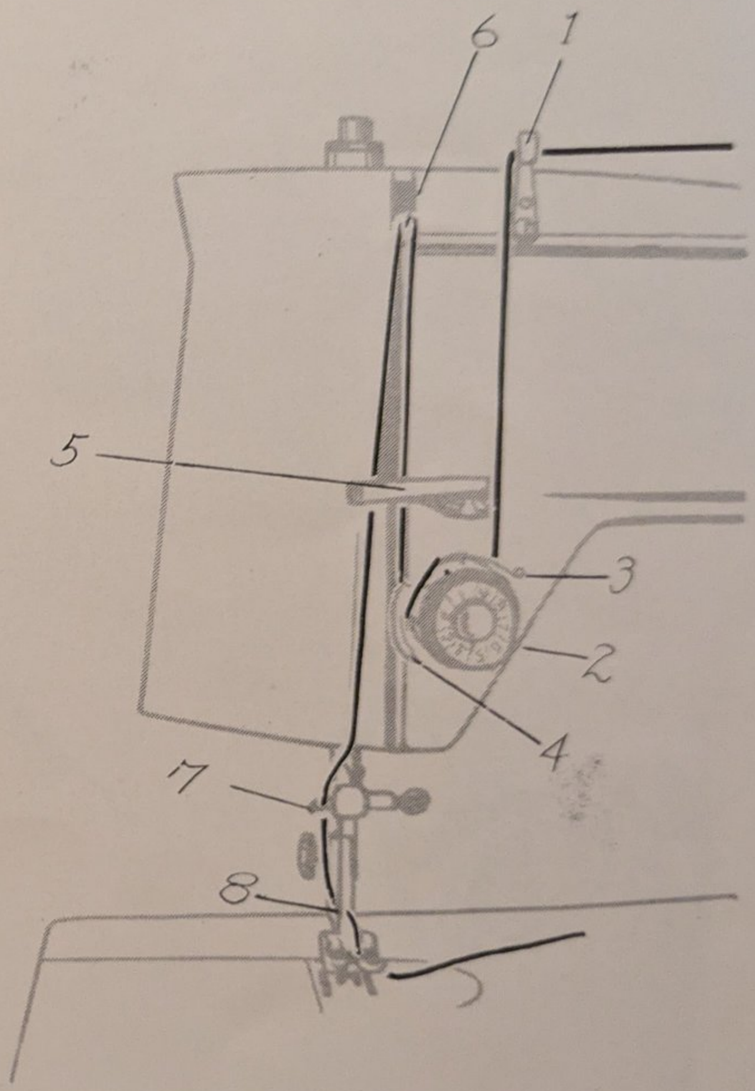
REMEMBER ONE IMPORTANT FACT—IF YOUR MACHINE IS NOT THREADED CORRECTLY, IT WILL NOT STITCH PROPERLY.

a. Raise thread-take-up-lever (7) to its highest point, by turning the hand wheel (19) toward you.

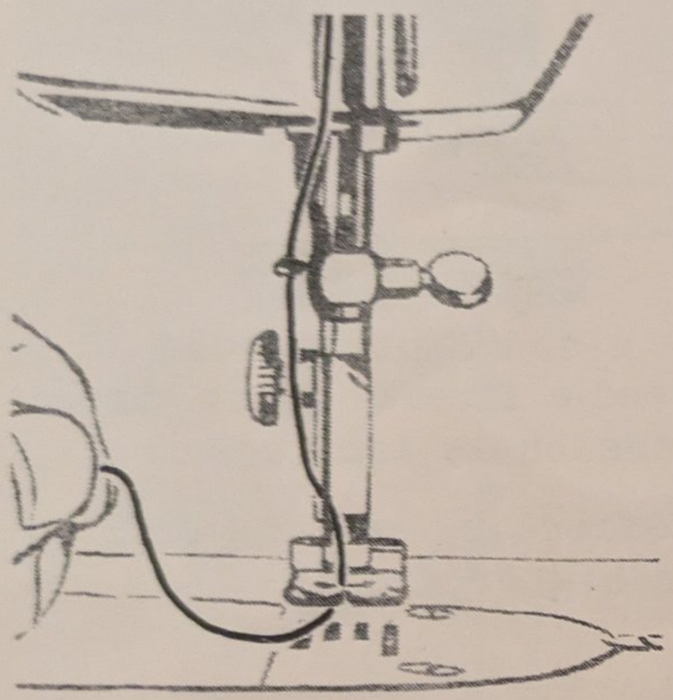
b. Lead thread through threading points as shown in numerical order.

c. Thread needle from left to right.



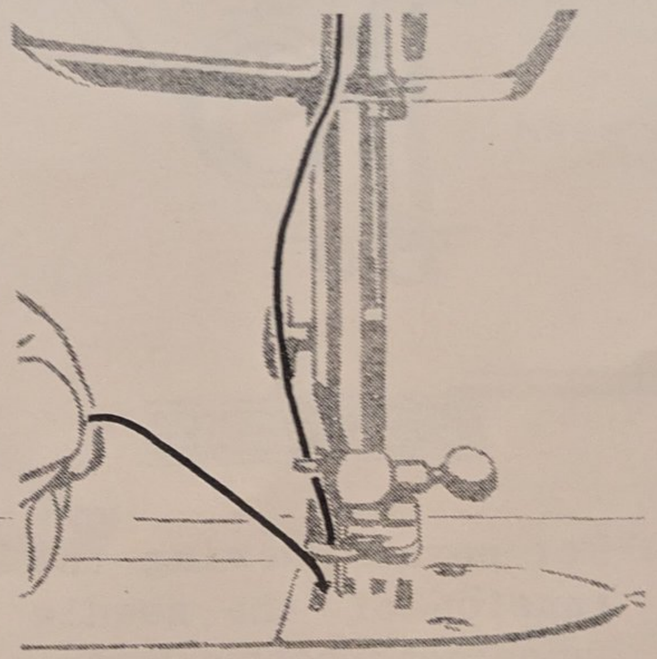


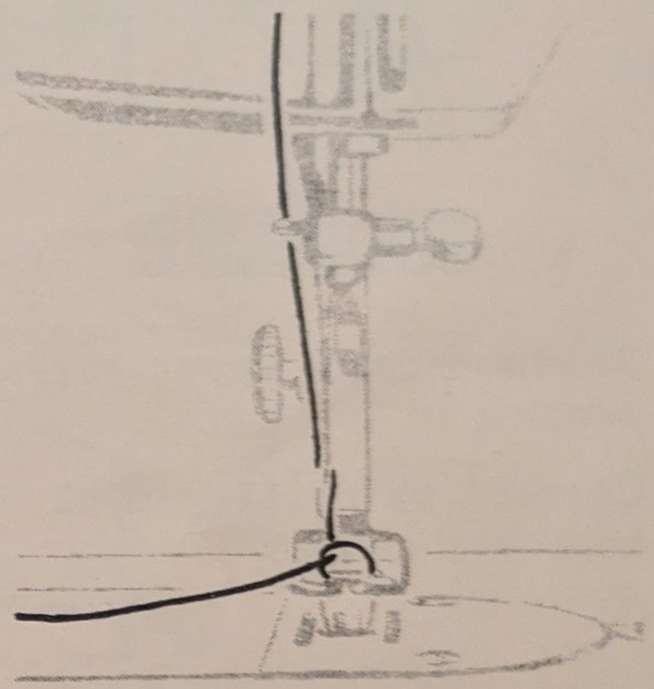
6. DRAWING UP THE LOWER THREAD



a. Hold the end of upper thread loosely, so that thread remains slack.

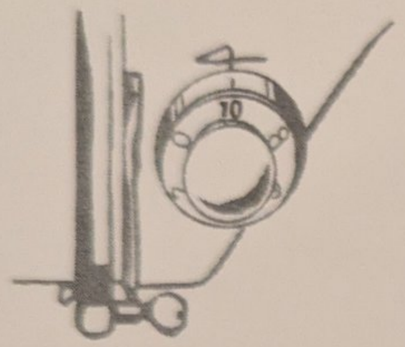
b. Turn the hand wheel(19) slowly until needle goes down and comes up again, and brings up lower thread.

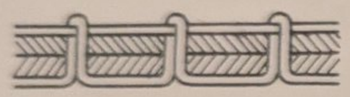




c. Pull the end of lower thread through needle plate and draw both threads under the presser foot.

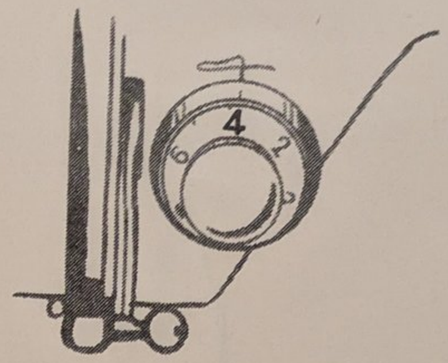
7. ADJUSTING THE THREAD TENSION

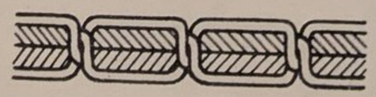




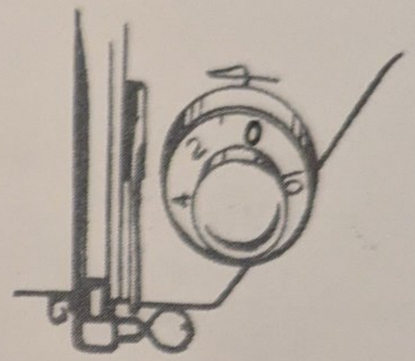
Needle thread (upper thread) tension is too tight.

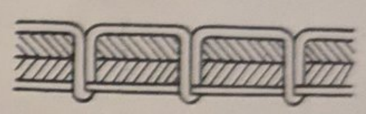
Correct by setting dial to lower number.





For normal sewing the tension of the needle (upper) and bobbin (lower) threads should be equal to lock both threads in the center of the fabric.

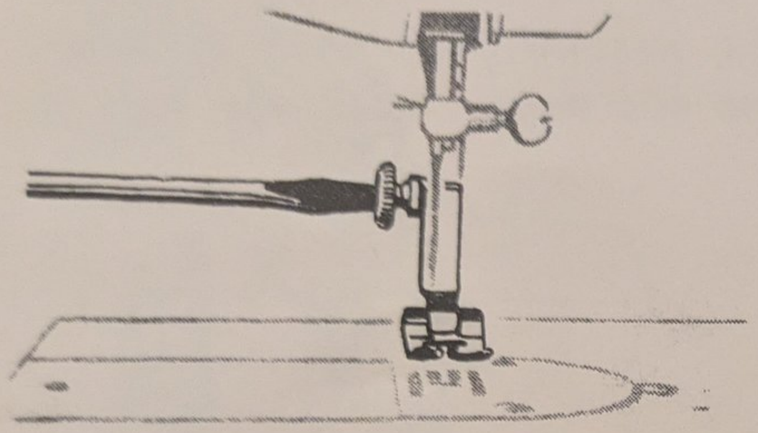




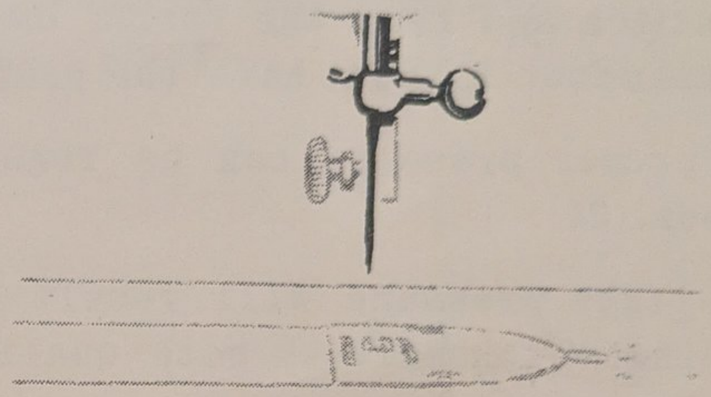
Needle thread (upper thread) tension is too loose.

Correct by setting dial to higher number.

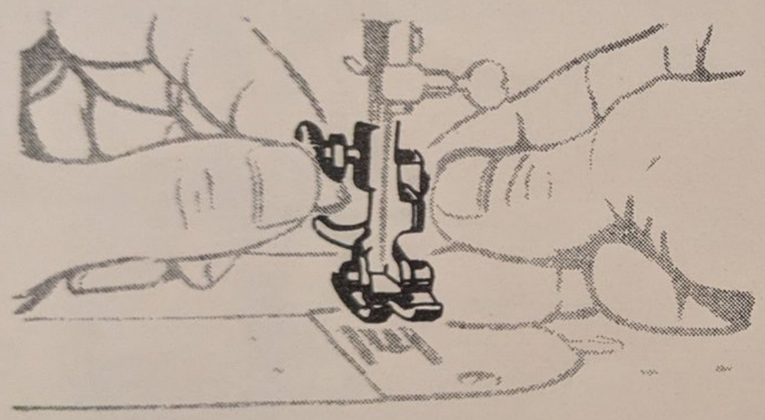
8. CHANGING THE PRESSER FOOT



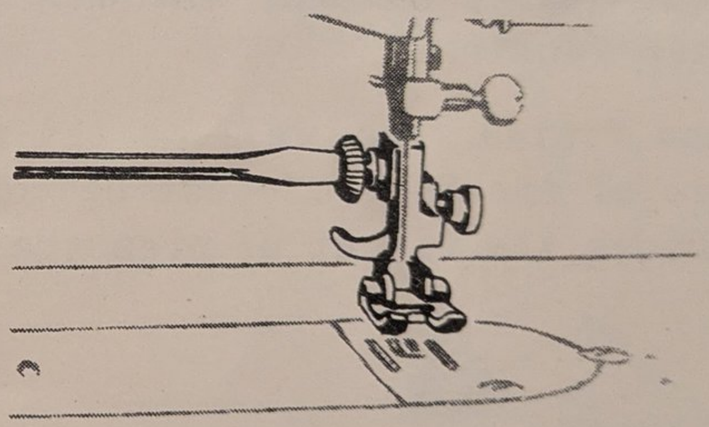
a. Loosen thumb screw.



b. Remove presser foot.



c. Attach other foot.
(Such as Buttonhole foot.)



d. Tighten thumb screw securely.

9. ADJUSTING THE PRESSURE

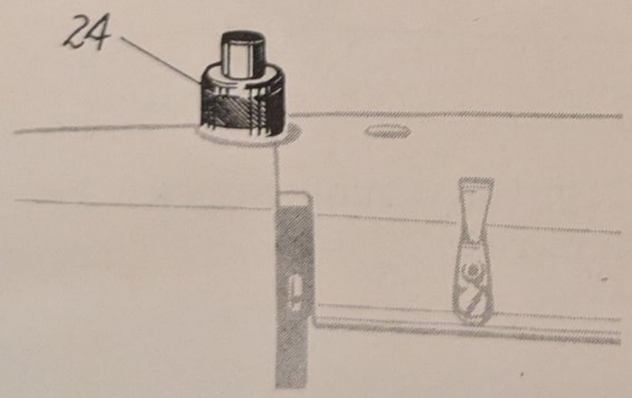
To stitch and feed the fabric smoothly, the presser-foot (11) must have the proper pressure.

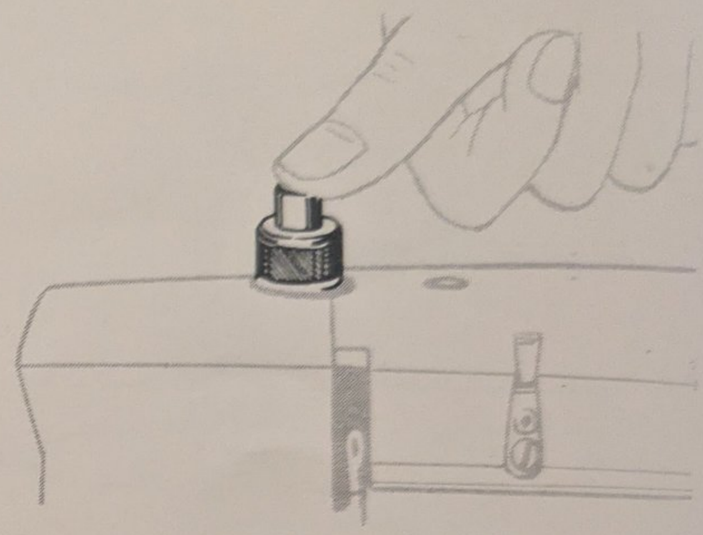
The proper pressure can be regulated by the darner (24).

Too light pressure will result in irregular feeding which affects both quality of stitch and evenness of seams.

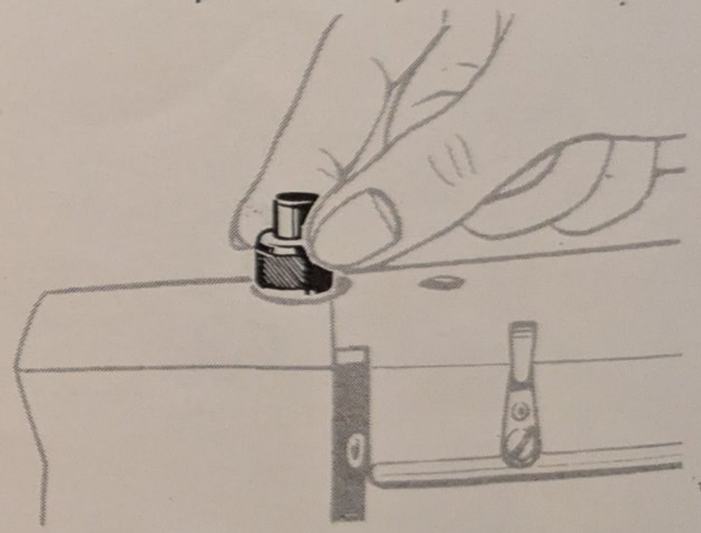
Too heavy pressure not only affects stitch and seam quality but will mar smooth surfaces and pile fabrics.

Surface finish, as well as the weight and texture of the fabric, must be considered in determining the amount of pressure needed.





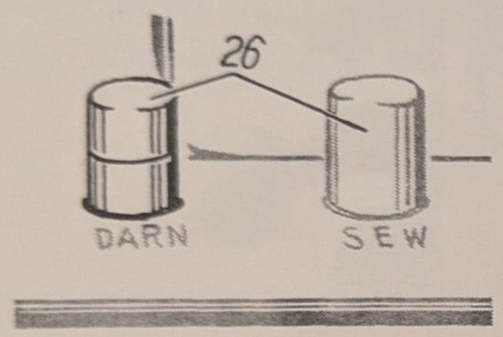
To increase pressure,
push the top of darner.



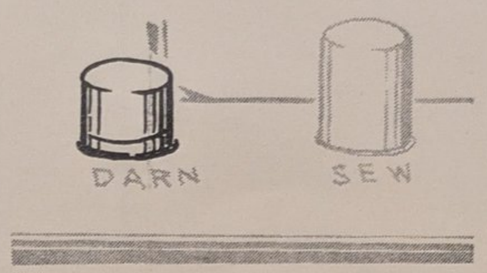
To decrease pressure,
push the round base.

10. THREE POSITIONS OF FEED-DOG.

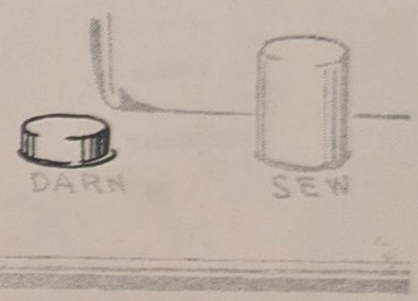
The Drop Feed Push Button (26) regulates the Teeth of the Feed Dog so that the fabric does not move.



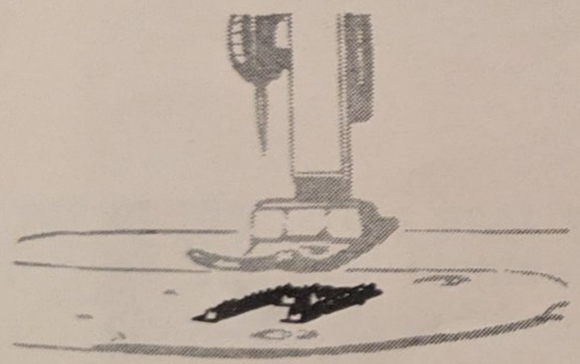
For stitching ordinary fabrics.



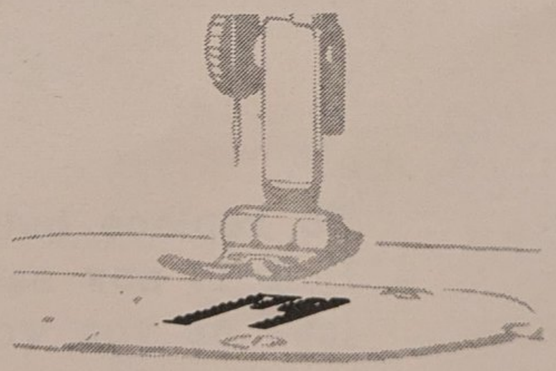
For stitching fine fabrics like Georgette, Silk.



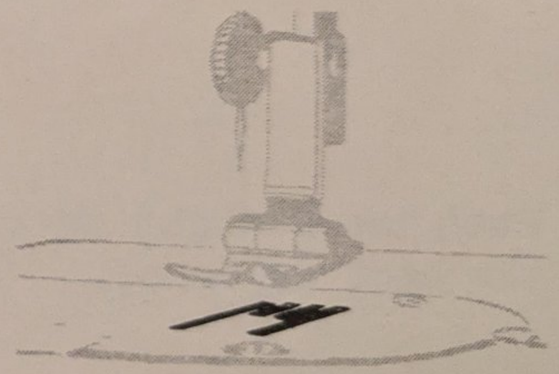
For darning, embroidering and button sewing.



The feed-dog is in up position.

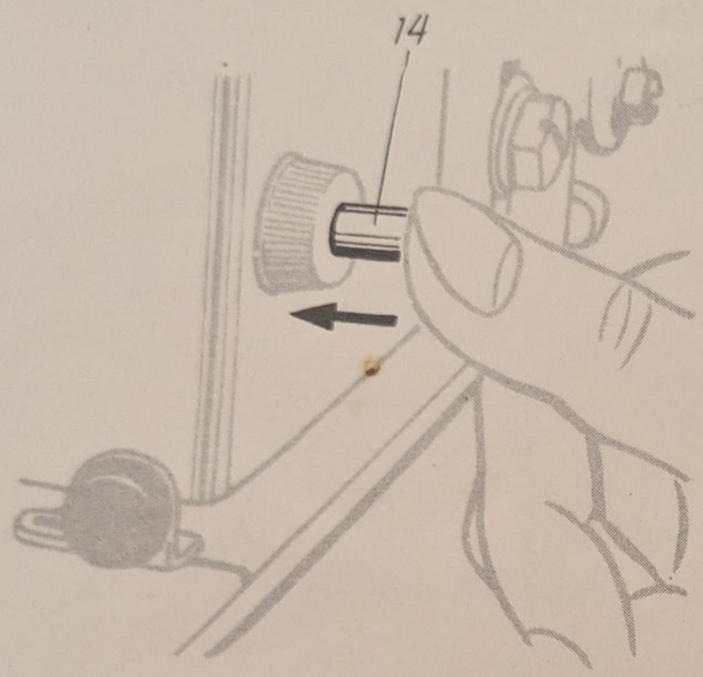


The feed-dog is in middle position.

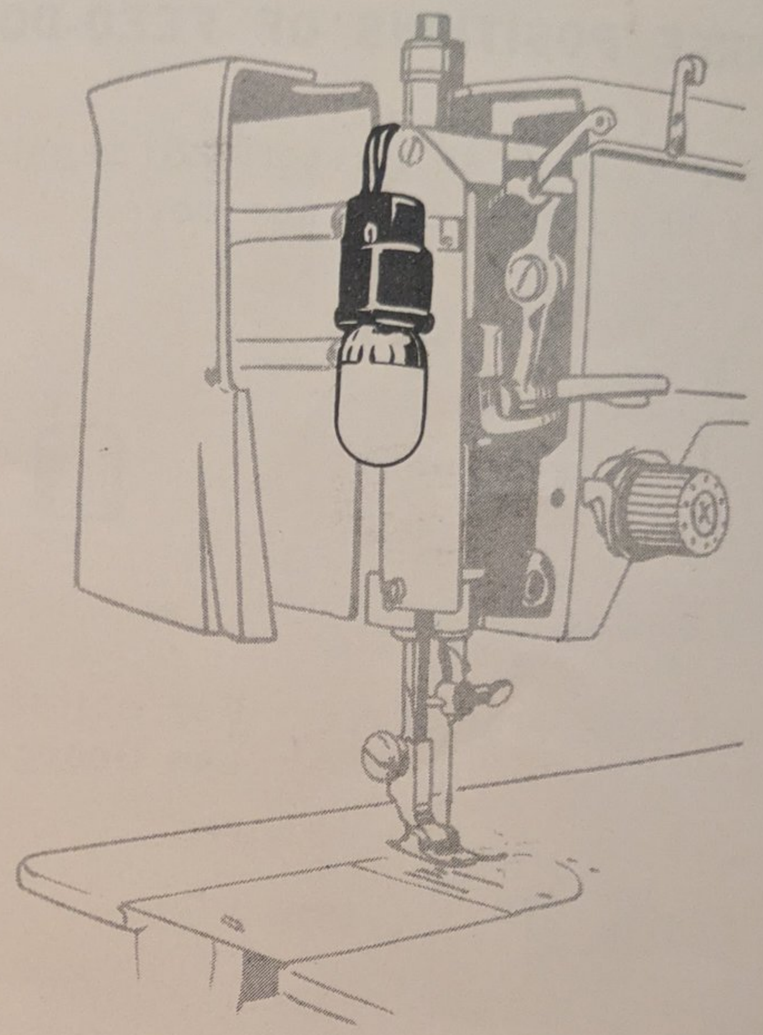


The feed-dog is in down position.

11. SEWLIGHT



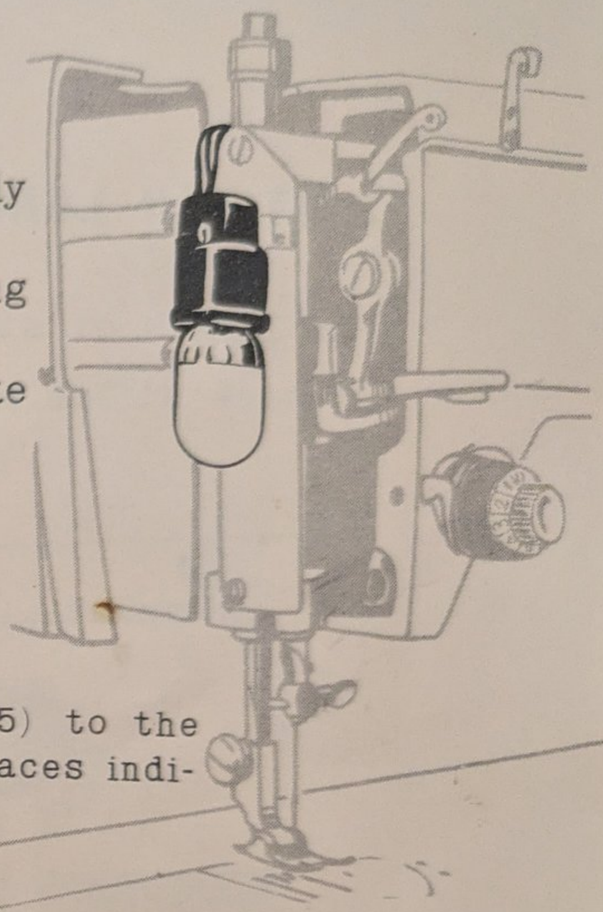
Push the sewlight-switch (14) the light on or off.



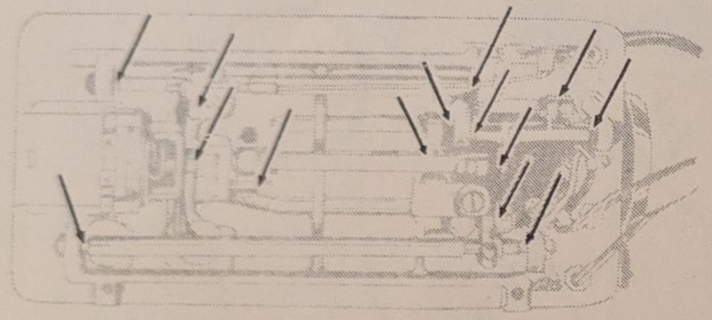
To replace bulb, swing face plate (25) to the left. Bulb is now easily accessible and can be removed just as you would an ordinary light bulb.

12. LUBRICATING AND CLEANING

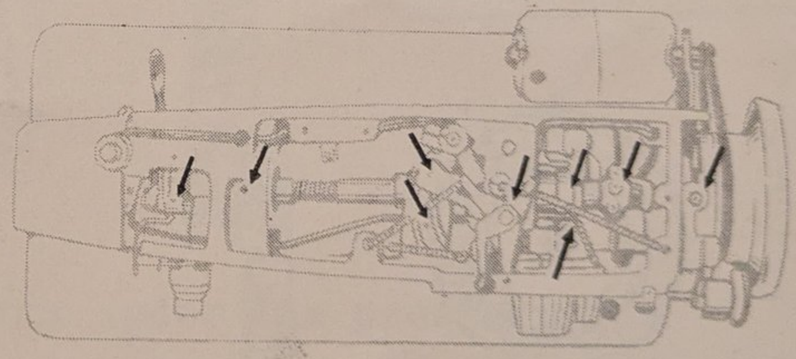
Your machine will be kept in top running condition by properly lubricating and cleaning periodically.
Apply one or two drops of a good grade of sewing machine lubricating oil once every working day or after about eight hours use.
Should your machine stand idle for a long perid of time, lubricate it before you start sewing.



Swing the face-plate (25) to the left. Luricate the places indicated by arrows.



Lubricate underside of the machine, indicated by arrows.
Also clean underside of the machine, especially around shuttle and feed-dog, using a small brush.

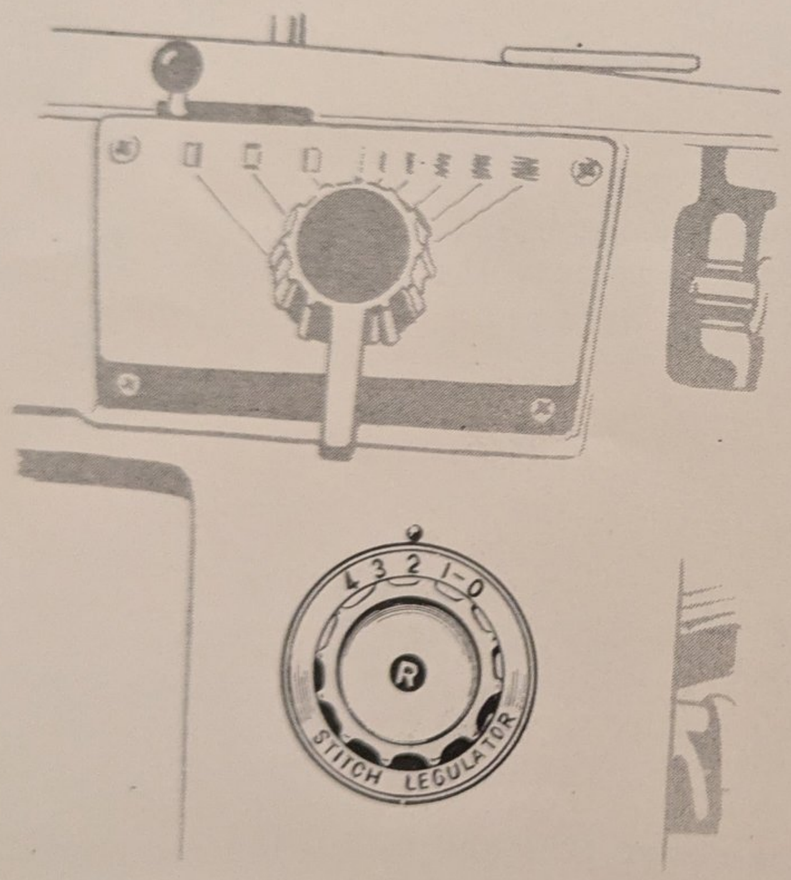


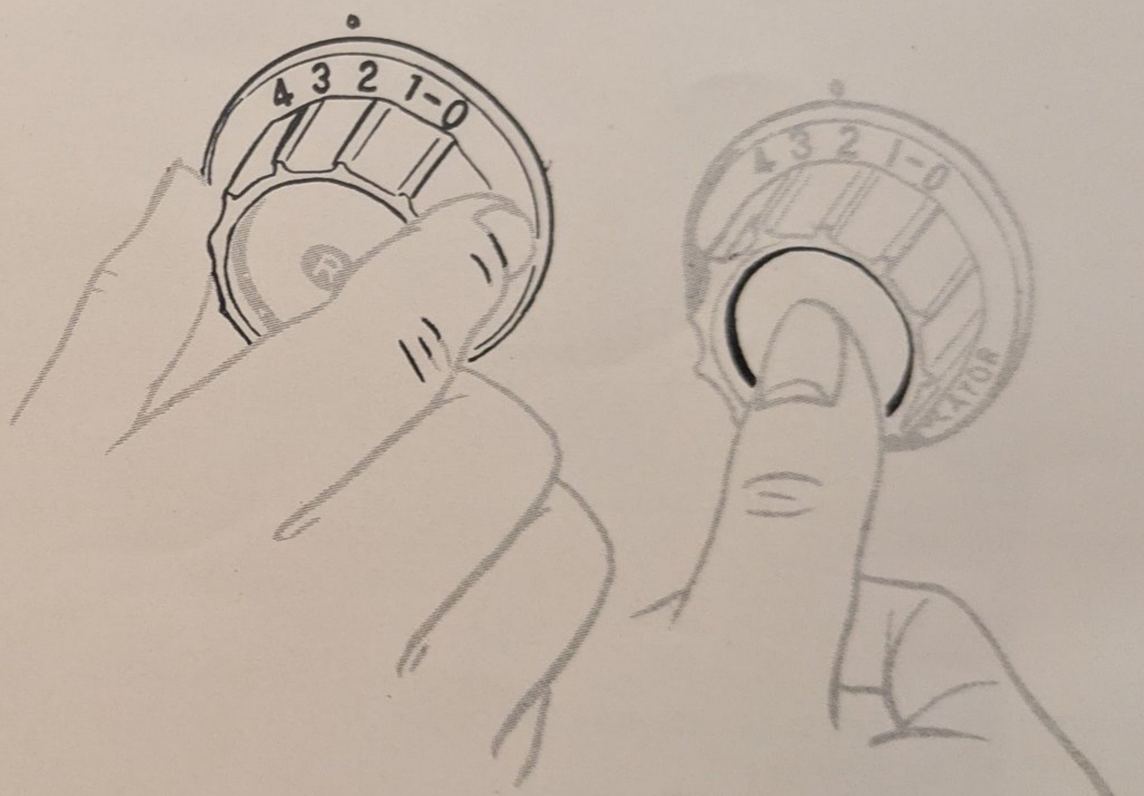
Remove arm-cover (23) and lubricate the places indicated.

ACTUAL SEWING WORK

1. STITCH LENGTH AND BACK STITCH

The length of stitch is regulated by the dial of stitch regulator (17).
To back stitch, push the reverse stitch button (16) as shown.

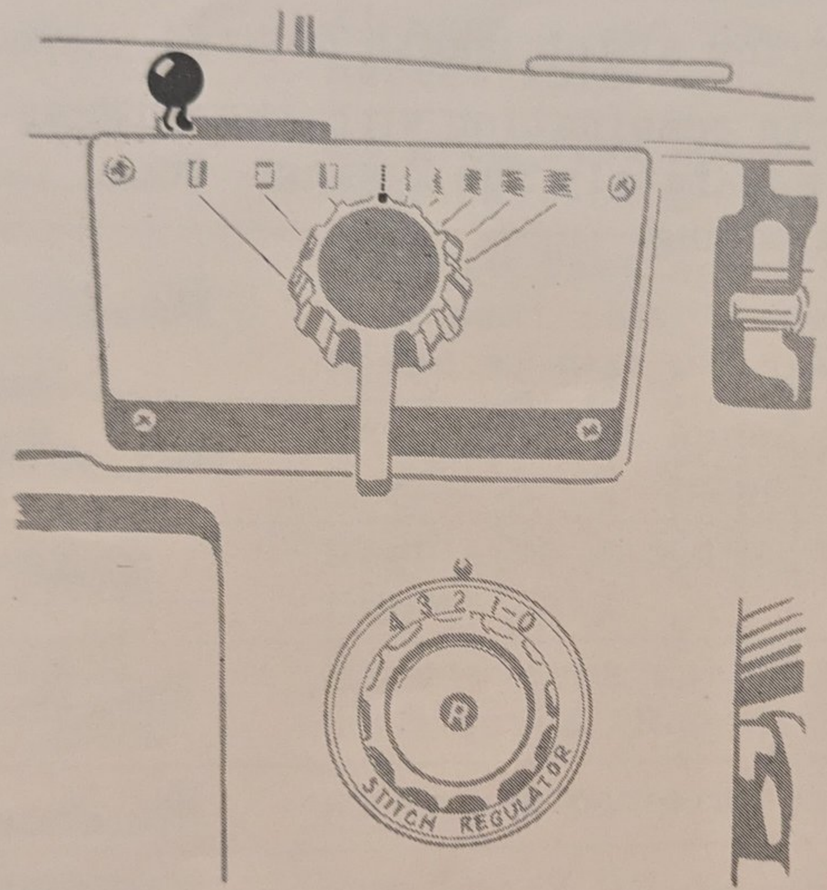




2. STRAIGHT STITCHING

a. Set the zigzag-width-control-dial (22) at "O" position as shown.

b. Set the stitch regulator (17) for stitch length desired.



NOTICE:

Never operate the machine without fabric under the presser foot. If this is not strictly adhered to your machine will lock and cannot be operated until the thread is cleaned out of the race.

3. ZIGZAG WIDTH CONTROL

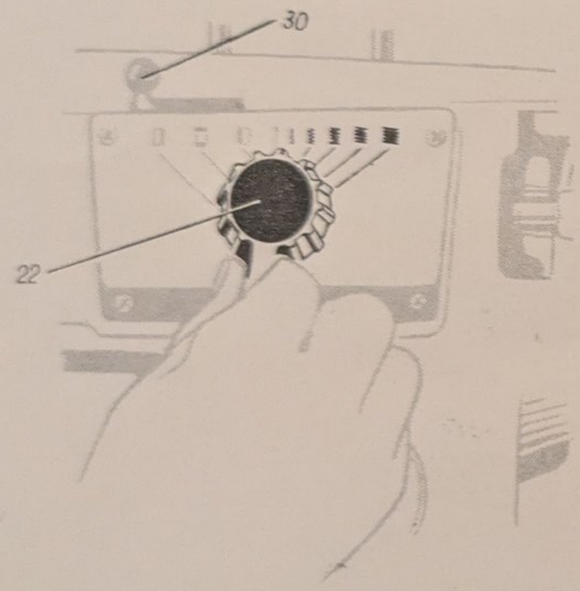
Zigzag width setting 1 to 5.

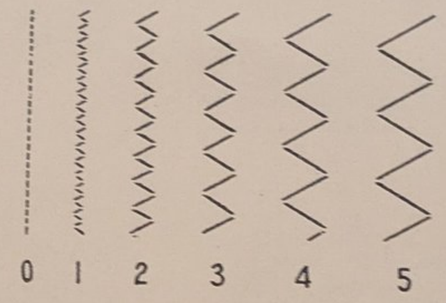
a. Z.BH dial (22) regulates the width of zigzag stitch.

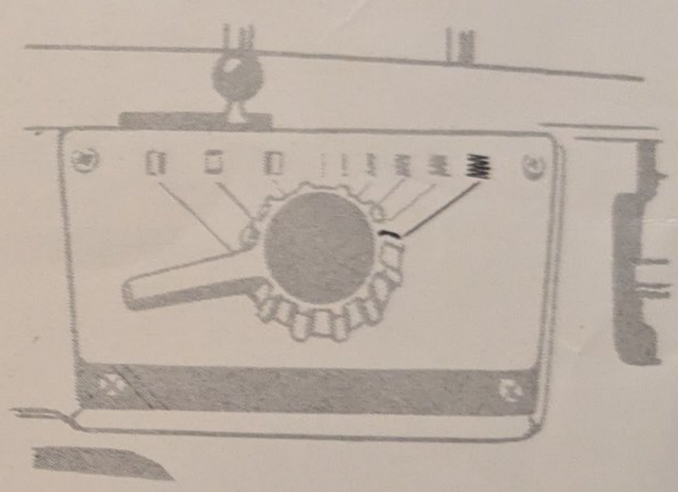
b. By turning the dial knob clockwise, you can increase the width of stitch from 1 to 5 millimeters. (0 is only for straight stitch).

c. Set the stitch regulator (17) for stitch length desired.

d. Zigzag-Lever (30) will move in combination with the Zigzag-Z.BH dial (22) and can move separately. The Zigzag-Lever is used for design stitching.



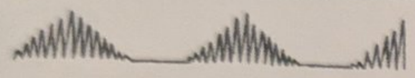
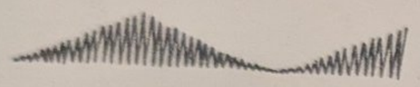
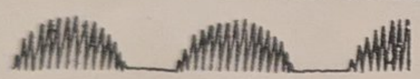
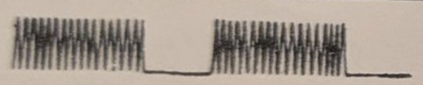
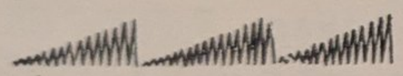
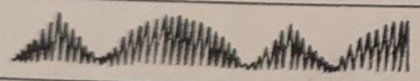
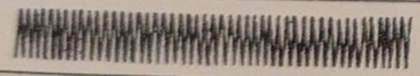
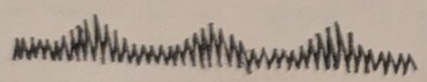




NOTICE:

Don't turn the Z.BH dial (22) while the needle is in the fabric.

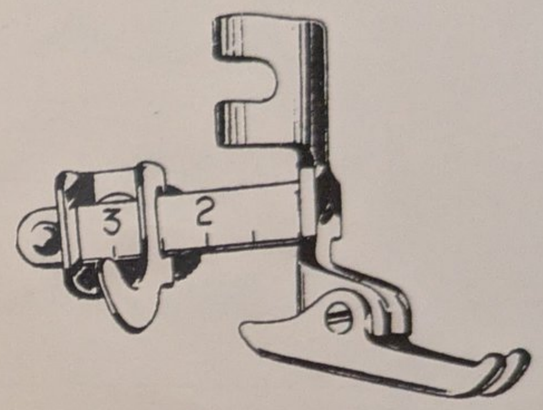
4. VARIOUS ZIGZAG STITCHES

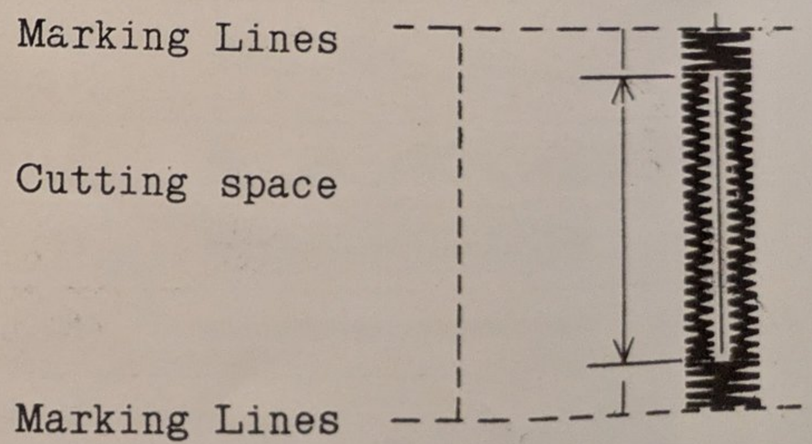
	Pattern to be sewn	How to operate the Z.BH dial (22)
1.		At even speed from O to 5 and 5 to O. Repeat this.
2.		At even speed from O to 5 and 5 to O, and rest. Repeat this.
3.		At even slow speed from O to 5 and from 5 to O. Repeat this.
4.		At even fast speed from O to 5 and from 5 to O. Repeat this. To get uniform curve, the moving speed of dial (22) must be controlled.
5.		At even fast speed from O to 5 and from 5 to O, and rest. Repeat this.
6.		Rest at 5 and dial back to O quick and rest, repeat this.
7.		Slowly even speed from O to 5 and dial back to O quick. Repeat this.
8.		Alternate patterns 1 and 4 as above. Repeat this.
9.		Set the Z.BH dial (22) at 5.
10.		Set the Z.BH dial (22) at 3.
11.		Set the Z.BH dial (22) at 2. And move the zigzag-lever (30) at even slow speed from left to right. Repeat this.

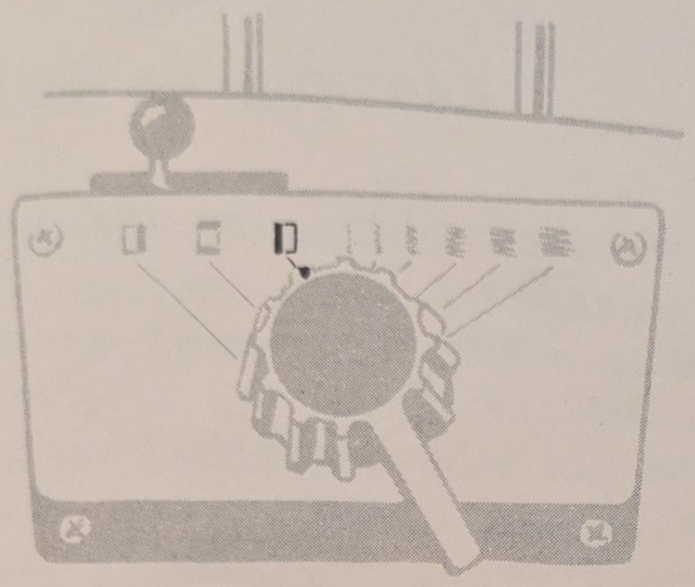
5. BUTTONHOLES

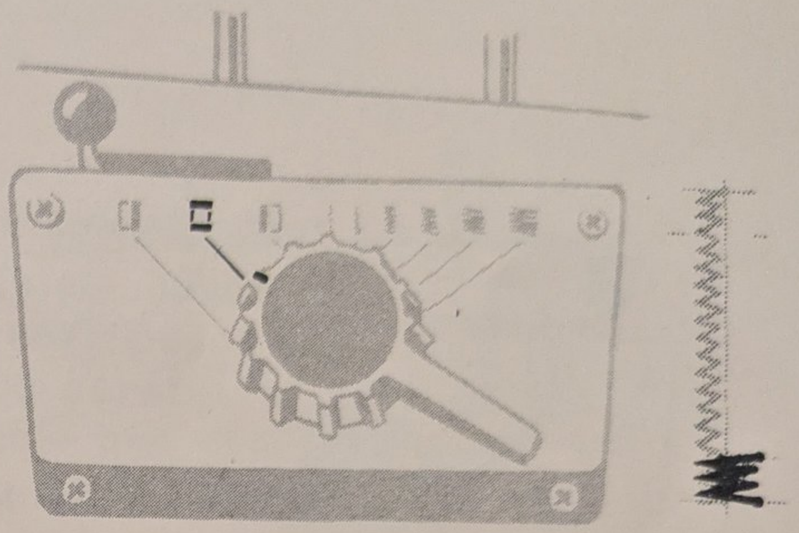
a. Replace the regular presser foot with the Button-Hole-Foot as shown. (Refer to Chap. 8. Changing the Presser-Foot.)

b. Set the Stitch Regulator (17) on rad. mark



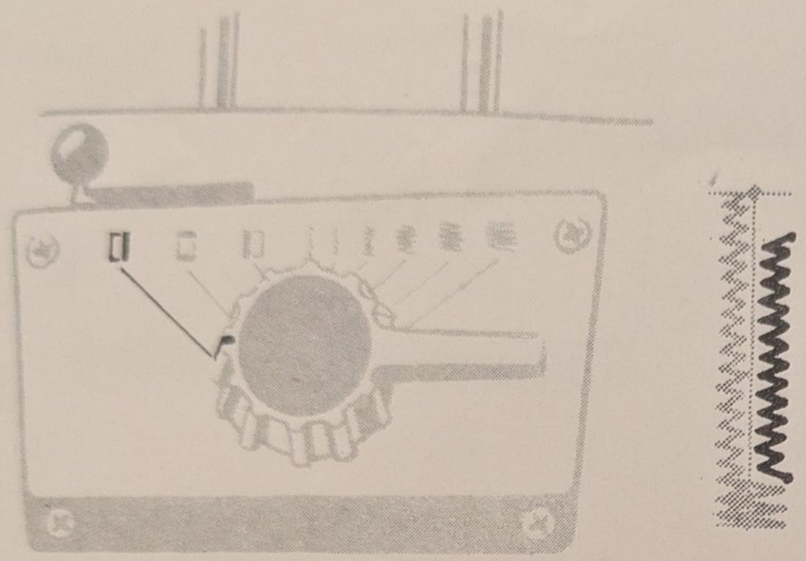


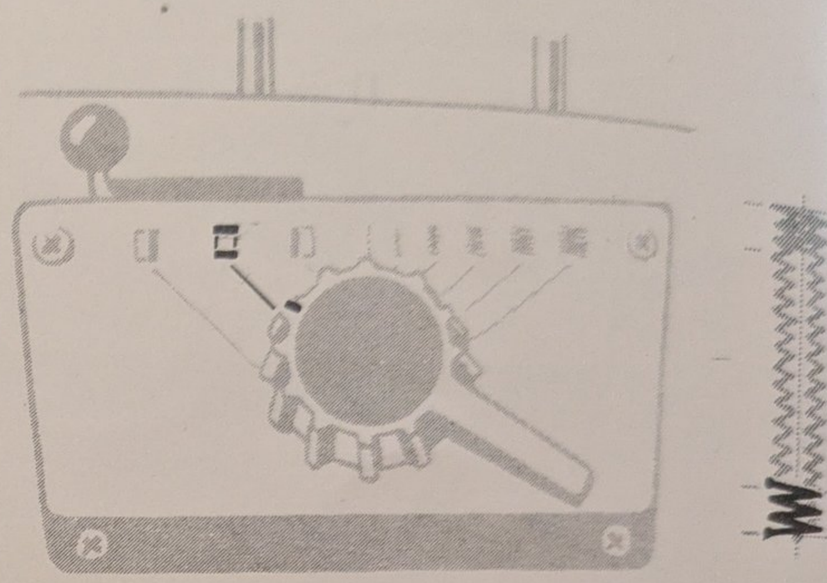




1. Left side stitching.
   Turn Z.BH dial (22) dial as shown.
   Stitch from top parking line to the end of bottom marking line.

2. Bar tack
   Turn Z.BH dial as shown, your machine will stitch back bar tack automatically.
   Take no less than six stitches.





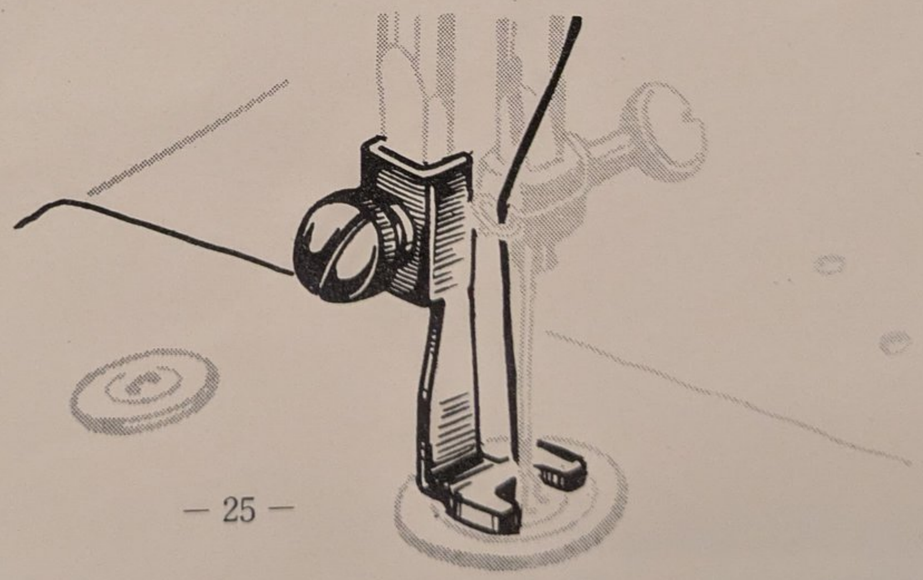
3. Right side stitching.
   Turn Z.BH dial as shown, your machine will stitch back automatically, wihout pushing the reverse stitch button.
   Stitch up to the end of cutting space.

4. Crossing bar tack
   Turn Z.BH dial as shown, your machine will stitch back bar tack automatically.
   Take no less than six stitches.

5. Remove fabric from machine and cut opening for button with seam ripper or sharp embroidery scissors.

6. SEWING ON BUTTONS

a. Replace the regular presser-foot with the button-sewing-foot as shown.
b. Press the left drop-feed-push-button (26) completely down.
c. Place the fabric and button under the button-sewing-foot and lower the foot to hold the fabric and button securely. Be careful to position the button so that the needle will enter the left hole and then the right. Be sure that the holes line up with the oblong hole in the button-sewing foot as shown.
d. Set the zigzag-width-control (22) by dialing clockwise while turning the hand-wheel (19), so the needle enters the right hole in the button.
e. Now you are ready to sew on the button. Make approximately six zigzag stitches in this position.
f. Dial the zigzag-width-control-dial (22) back to "0" and make approximately 3 or more stitches for reinforcement.



7. BLIND STITCH

a. Set the Z.BH dial (22) at "5".

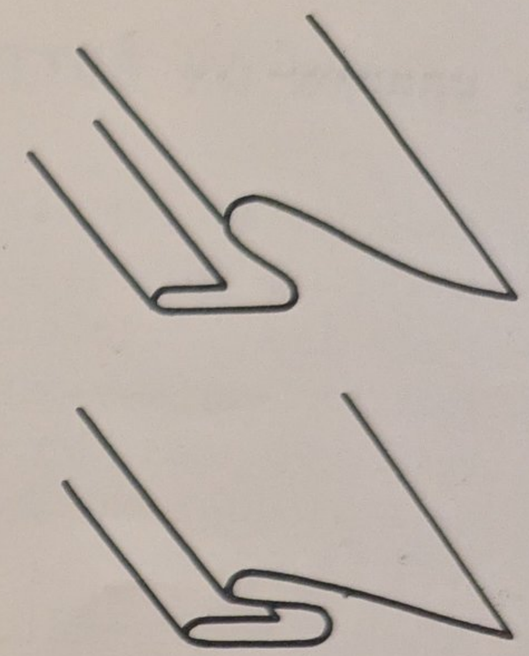
b. Set the stitch regulator (17) at "4".

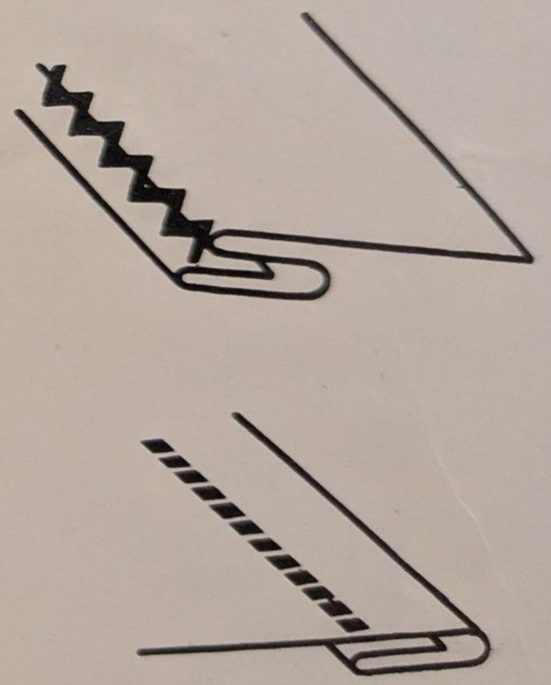
c. Fold fabric as shown.

c. The lower fold should overlap the upper fold by approximately 1/16 of an inch.

e. Place the fabric under the presser-foot, and stitch the lower fold.

f. Remove fabric from machine and fold back the upper fold as shown.





8. DARNING AND EMBROIDERY

a. Push the left drop feed push button (26) completely down.

b. Remove the presser foot.

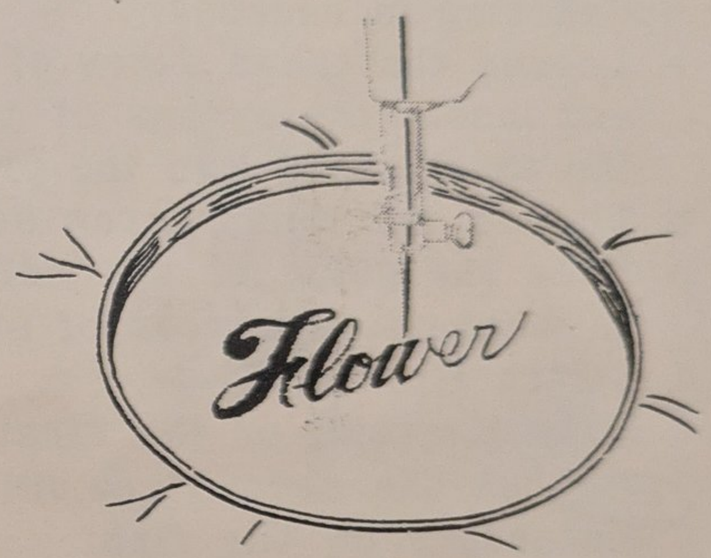
c. Lower the presser-bar-lifter (27) to activate the tension of upper thread.

d. Hold the upper thread loosely with left hand, turn the hand wheel over and draw the bobbin (lower) thread up through the fabric with the loop of the upper thread.

e. Hold both thread ends and start stitching.

f. Embroidery can be done best when fabric is set in embroidery hoop. Hold the hoop tightly on the machine base.

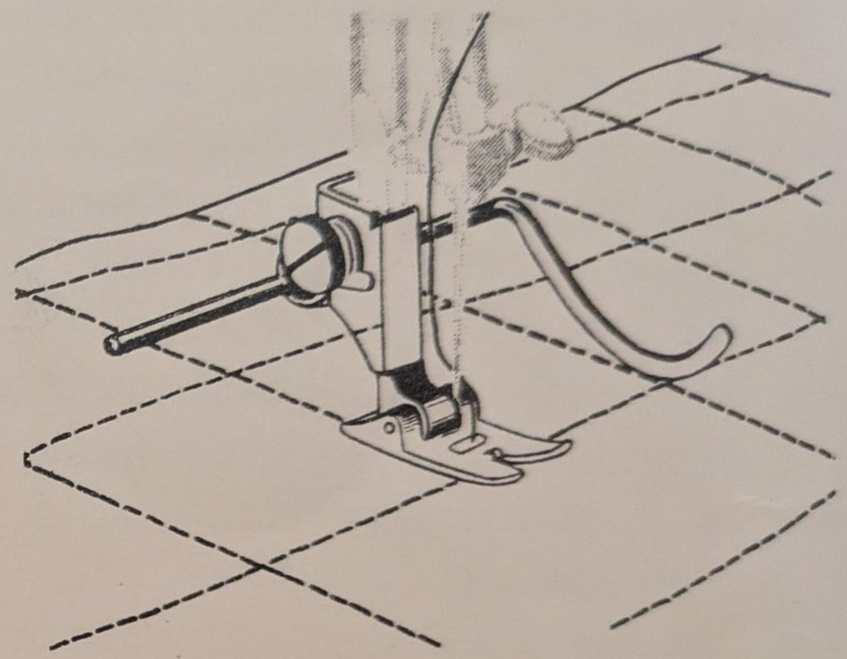
g. Dial the Z.BH dial (22) according to the design.



9. QUILTING

The quilting guide attached to your machine, will enable you to stitch rows automatically at the desired distance on padded fabrics.
No marking is necessary.

a. Loosen the thumb screw of presser foot (11) and insert the prongs of the guide between the thumb screw and the presser foot.
b. Tighten the thumb screw securely.
c. Slide the guide at the distance you wish to maintain your rows of stitching.
d. Stitch first row.
e. Place the guide on the first row of stitching so that the second row will be the desired distance from the first.
f. Continue stitching rows in same manner.



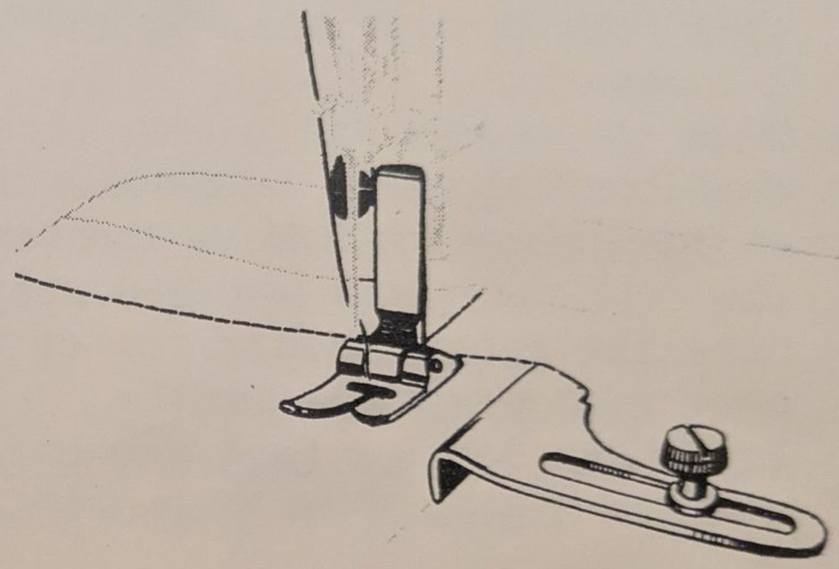
10. CLOTH GUIDE

This guide will enable you to sew a row of stitching as close to the edge of the fabric as may be desired and keep the seam a uniform distance from the edge of the fabric.

a. To attach this guide, use thumb screw included in acessories kit, and secure to the base of machine in either one of the holes to the right of the needle plate.

b. The guide can be adjusted to the width of the seam you wish.

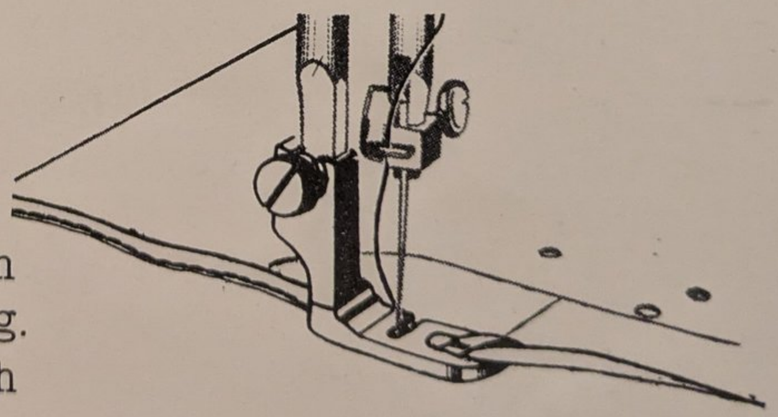
c. Guide the fabric edges lightly against this cloth guide while stitching.

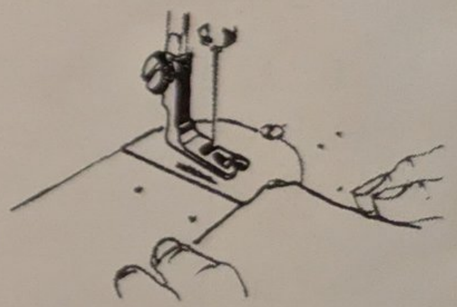


11. NARROW HEMMER

a. Replace the regular presser foot with the hemmer foot as shown.
b. Fold the edge of the fabric over approximately 1/8 of an inch, then fold it over again in the same manner to a length of about 2 inches.
c. Draw the needle and bobbin threads under the hemmer foot.
d. Feed the fold of the fabric into the spiral formed opening (scroll) of the hemmer foot. Move the fabric slightly back and forth until the fold end forms scrolled shape.
e. Draw the fabric toward you to the point that the hem edge will come just below the needle.
f. Lower the hemming foot and begin to stitch. Guide the fabric into the hemmer foot while stitching.

NOTICE:
Don't push or pull the fabric, even feeding is essential for good hemming. The fabric must be kept the same width in the scroll of the hemmer at all times.





12. SOME USEFUL SEWING HINTS.

TO TURN A CORNER

a. Stop the machine while the needle is still in the fabric.
b. Raise the presser foot and turn the fabric using the needle as a pivot.
c. Lower the presser foot and resume stitching.

TO STITCH STRETCH FABRICS

In stitching on stretch fabrics such cotton knit, bias cut cloth, etc., it is advisable to use lower tension for upper thread, otherwise the thread will break when fabrics are stretched.

TO STITCH VERY THIN FABRICS

To stitch very thin and delicate fabrics, which easily get out of shape, place a sheet of tissue paper underneath the fabric and set the regulator at the shortest stitch length. This will keep the fabric in good shape.

BASTING

a. Loosen tension of the upper thread and use the longest stitch length possible.
b. The stitches may then be easily removed by pulling the lower thread.

TO KEEP YOUR MACHINE IN PERFECT CONDITION

a. Keep all moving parts of the machine lubricated and cleaned.
b. Always turn hand wheel toward you, not reverse.
c. Do not run machine without fabric, especially after threading the needle.
d. When stitching do not pull the fabric, otherwise you will bend the needle.
   The machine is designed to feed the fabric automatically.
e. Do not operate machine when the presser-bar-lifter is raised

13. HINTS AND ADJUSTMENTS

LOOSE STITCHES ON UPPER THREAD

a. Incorrect threading.
b. Upper thread tension is too tight.
c. Blunted needle or incorrect needle set.
d. Needle touching presser foot or other attachments.
e. Needle eye too small for thread.
f. Knots in sewing thread.
g. Stitch hole in needle plate out of order.

LOOSE STITCHES ON LOWER THREAD

a. Incorrect threading of the bobbin case.
b. Lower thread tension is too tight.
c. Bobbin over filled.

BREAKING THE NEEDLE

a. Pulling the fabric while machine is running, causing the needle to strike the needle plate.
b. Using bent needle.

SKIPPING STITCHES

a. Using blunted needle.
b. Needle inserted incorrectly.
c. Needle threaded improperly.
d. Using wrong size needle.
e. Pressure of presser-foot too high for the fabric.

UNEVEN STITCHES

a. Presser foot is not resting evenly on fabric.
b. The height of feed-dog is not adjusted properly.
c. Too short stitches used.
d. Pulling the fabric while the machine is running.
e. Needle too fine for fabric or thread too coarse.
f. Not enough pressure on fabric.

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